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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,002	11/25/2003	Regine Haller	TFR0188	7687

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Valeo Climate Control Corp
Intellectual Property Department
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EXAMINER	
DUONG, THO V	
ART UNIT	**PAPER NUMBER**
3753	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/722,002	HALLER ET AL.	
	Examiner	Art Unit	
	Tho v. Duong	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *3,4,8,9 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6,7,10-19 and 21-26* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/25/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 3-4 and 8-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/19/2005. Claim 20 is further withdrawn from consideration since it depends on the withdrawn claim 3.

Applicant's election with traverse of species 10-11 in the reply filed on 10/19/2005 is acknowledged. The traversal is on the ground(s) that a search for different tube is not a serious burden and the conclusion of different heat exchangers is not clear. This is not found persuasive because the basis for restriction is that the species are patentable distinct. The search for each different patentable distinct tube is a serious burden to the examiner. Furthermore, the heat exchanger of species of figure 1, 11 and 12 are different in which the heat exchanger of figure 1 includes a plurality of straight tube with manifolds mounted on two opposite sides, the heat exchanger of figure 11, has U-shaped tubes and manifolds mounted on one side of the tube and the heat exchanger of figure 11, has U-shaped tube and coil in combination.

The requirement is still deemed proper and is therefore made FINAL.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract should avoid using phrases which can be implied, such as "the invention relates to". Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 15-17 and 21 are objected to because of the following informalities: a broad range (0-10, 60-90) followed by linking terms (preferably) and a narrow range (5-7 and 70-80) within the broad range is not clear since the resulting claim does not clearly set forth the metes and bound of the patent protection desired. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed subject matter of the heat storage fluid is a phase change fluid with a

melting point of between 60-90C, renders the scope of the claim indefinite since claim 15, which claim 21 depends from, has excluded any melting point beyond 10C.

Claims 15-17 are further rejected as can be best understood by the examiner in which the broader range is given as the metes and bound of the invention.

In view of clarity issue of claim 21, the examiner is unable to determine whether the claim is new or inventive.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2,12-13,15,16 and 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Bureau et al. (US 6,691,527). Bureau discloses (figures 5-6 and 8-10) a heat exchanger comprising at least one manifold delimiting an inlet and an outlet for a heat transfer fluid; a plurality of parallel flat tubes (620) having two opposed large faces and in which circulation ducts (605,621,650), and cavities (622,601,651) are formed; a multiplicity of corrugated fins forming a heat exchange surfaces, each of which is arranged between two adjacent tubes; the cavity contains a heat storage medium (water, decanol), which has a phase change temperature between 0-10C; the cavity situated adjacent to the circulation ducts in which a way that the heat storage fluid is able to exchange heat with air flow that sweeps the heat exchange surface (fins) if the circulation of the heat transfer fluid through the ducts is stopped.

Bureau further discloses (column 8, lines 49-58) that at least one connecting pipe communicates with the cavities.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18-19 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bureau et al. Bureau substantially discloses all of applicant's claimed invention except for the limitation that the apparatus is employed to form a heating radiator. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). In this instant case, the recitation with respect to the manner in which the claimed heat exchanger is intended to be employed as a heating radiator does not differentiate the heat exchanger from the heat exchanger of Bureau since Bureau's heat exchanger teaches all the structural limitation of the claim.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bureau in view of Shirota et al. (US 6,854,513). Bureau substantially discloses all of applicant's claimed invention as discussed above except for the limitation that the heat storage fluid is chosen from paraffin. Shirota discloses (column 20, lines 1-14) a vehicle air conditioning system with cold accumulator that has paraffin selected to be the cold storage fluid for a purpose of preventing the

evaporator from being frosted over and preventing the accumulator from corrosion. Since Bureau and Shirota are both from the same field and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Shirota's teaching in Bureau's system for a purpose of preventing the evaporator from being frosted over and preventing the accumulator from corrosion.

Claims 6,7,14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bureau et al in view of Tanabe. Bureau substantially discloses all of applicant's claimed invention as discussed above except for the limitation that the evaporator comprises of a plurality of U-shaped flat tubes. Tanabe discloses (figures 2,4,8 and column 4, lines 37-43) that the evaporator can not only be a parallel straight tube type evaporator as well known as disclosed in the prior art of Bureau but also be U-shaped tube type evaporator. Tanabe discloses that the evaporator comprises of a plurality U-shaped flat tubes (11) having a plurality of fins disposed between the tubes so that the efficiency of the heat exchange performed by the evaporator is generally uniform at any portion thereof, which in turn enhancing the performing of the evaporator. Since Bureau and Tanabe are both from the same field of endeavor and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Tanabe's teaching in Bureau's device so that the efficiency of the heat exchange performed by the evaporator is generally uniform at any portion thereof, which in turn, enhancing the performing of the evaporator.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bureau as applied to claims 2 and/or 6 above, and further in view of Memory et al. (US 6,964,296).

Bureau and Tanabe substantially discloses all of applicant's claimed invention as discussed above except for the material of tube being aluminum. Memory discloses (column 4, lines 4-29) that aluminum is known material to be use for evaporator's tubes for an obvious purpose of reducing the weight of the evaporator since aluminum has a high thermal conductivity and relative lightweight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Memory's teaching in the Bureau's device alone or in combination device with Tanabe for a purpose of reducing the weight of the evaporator.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bureau in view of Tanabe as applied to claim 17 above, and further in view of Shirota. Bureau and Tanabe substantially discloses all of applicant's claimed invention as discussed above except for the limitation that the heat storage fluid is chosen from paraffin. Shirota discloses (column 20, lines 1-14) a vehicle air conditioning system with cold accumulator that has paraffin selected to be the cold storage fluid for a purpose of preventing the evaporator from being frosted over and preventing the accumulator from corrosion. Since Bureau and Shirota are both from the same field and/or analogous art, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Shirota's teaching in Bureau's system for a purpose of preventing the evaporator from being frosted over and preventing the accumulator from corrosion.

Allowable Subject Matter

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hoshino et al. (US 5,531,268) discloses an aluminum heat exchanger.

James (US 5,239,839) discloses a thermal energy storage apparatus.

Feurecker (US 6,101,830) discloses a cold storage device.

Rafalovich (US 6,327,871) discloses a refrigerator with thermal storage.

James (US 6,370,908) discloses dual evaporator refrigeration unit and thermal energy storage unit.

Bureau (US 6,568,205) discloses an air-conditioner for a motor vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Blau can be reached on 571-272-4406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tho v Duong
Primary Examiner
Art Unit 3753

TD
December 23, 2005